



# ***Interpolator***

## ***Chesapeake Bay and Tidal Tributary River Interpolator Tool***

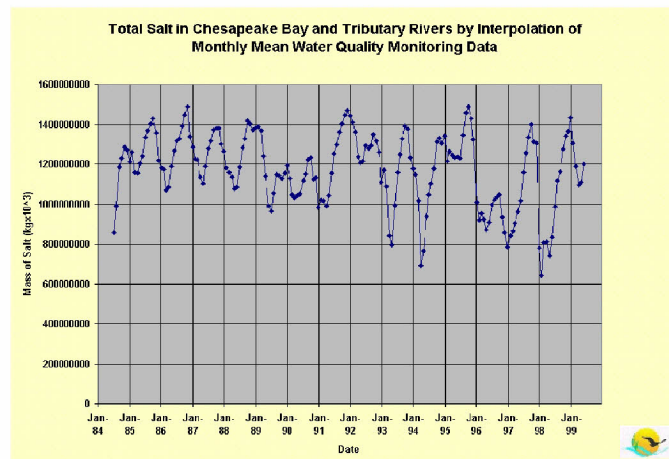
### **What is The Chesapeake Bay and Tidal Tributary River Interpolator?**

The Chesapeake Bay and Tidal Tributary River Interpolator is a standalone application that interpolates water quality sample concentrations on the surface or throughout the 3D volume of the Bay and tidal tributaries. It computes concentrations throughout the water volume for assessing concentration by volume and mass of constituents for trend analysis.

### **What are the benefits of using the Interpolator?**

The Interpolator Tool:

- computes concentrations of monitored parameters throughout a volume of water.
- sums computed values to calculate trends in changes of mass of the constituent over a time series.



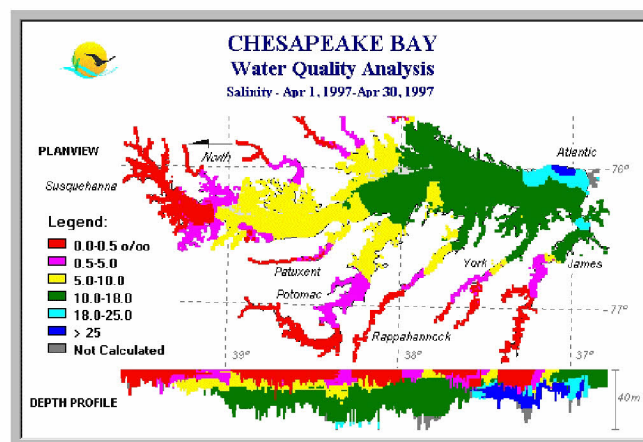
- computes concentrations by segment so each stretch of river or Bay segment can be analyzed independently.
- can be used to calculate values by season, month, cruise, or other period of time.
- computes water quality values that can be overlaid with living resources data for determining relationships.

### **Who can use the Interpolator?**

The Interpolator was designed to be a tool used by technical analysts and the research community. Its products can be used for communicating with the public.

### How does the Interpolator work?

The Chesapeake Bay Interpolator is a cell-based interpolator. Fixed cell locations are computed by interpolating the nearest  $n$  neighboring water quality measurements, where  $n$  is normally 4. Cell size in Chesapeake Bay was chosen to be 1km (east-west) x 1km (north-south) x 1m (vertical), with columns of cells extending from surface to the bottom of the water column, thus representing the 3-dimensional volume as a group of equal sized cells extending throughout the volume. The tributaries are represented by various sized cells depending on the geometry of the tributary, since the narrow upstream portions of the rivers require smaller cells to accurately model the river's dimensions. This configuration results in a total of 51,839 cells by depth for the Main Bay (Segments CB1TF-CB8PH), and a total of 238,669 cells by depth for all 77 segments which comprise the Main Bay and tributaries. Monitoring data are input from ASCII text files (these files can be created with the BayStats tool). Output files can be formatted as ASCII text files and graphical representations of the results can be created.



### How is BayStats accessed?

The Interpolator can be accessed on the Internet at:  
<http://noaa.chesapeakebay.net/data/wqual.htm>

The Chesapeake Bay Program is the unique regional partnership that's been directing and conducting the restoration of the Chesapeake Bay since the signing of the historic 1983 *Chesapeake Bay Agreement*. The Chesapeake Bay Program partners include the states of Maryland, Pennsylvania and Virginia; the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; the Environmental Protection Agency, representing the federal government; and participating advisory groups.

For more information, contact the Chesapeake Bay Program Office:  
410 Severn Avenue, Suite 109, Annapolis, MD 21403  
Tel: (800) YOUR-BAY / Fax: (410) 267-5777